to the outflow of the urine, the infection is not severe, or the wound is not too large or irregular. Yet it is not advised that the suture should be systematically avoided. The incision may be made directly through the fat and pelvic wall, and the closure made by catgut sutures which include both layers to the submucosa. This applies especially to cases in which the kidney cannot be delivered from the wound. In one case a large calculus was exposed through a pelvic incision. Because the stone could not be palpated easily, the pelvis was well freed from the surrounding fat. After extraction of the stone, the sutures used to close the pelvic opening cut through. The wound was not superficial and its closure was accomplished by a quadrilateral flap taken from the fibrous capsule of the kidney, from which the fat was removed. Mayo used the fatty capsule for a similar purpose. In cases with stones in the calyces, the pelvis should not be explored too much with the finger or forceps, but a radial incision should be made directly over the stone through the renal parenchyma. The wound can be closed with sutures, and these overlaid with a fatty flap with good results. In a mildly infected hydronephrosis, the cause of which was a stricture at the upper end of the ureter, the pelvis was widely opened, the stricture divided anteriorly, and posteriorly. The wound was then closed in a transverse direction with a single row of sutures, and covered with a broad, fatty flap. Primary union resulted. When, because of the depth of the wound and the shortness of the pedicle, the kidney cannot be delivered, the fat should not be freed from the pelvis, but the incision should be made directly on the stone and the wound afterward left unsutured. The surrounding fatty tissue applies itself over the wound and closes it.

The Etiology, Symptomatology, and Pathogenesis of Acute Intestinal Obstruction.—POLACCO and NEUMANN (*Deutsch. Zeitschr. f. Chir.*, 1913, cxxii, 42), in an operation for an acute intestinal obstruction, found the jejunum, at about its middle, strangulated by a long, thin, fibrous band, which passed from one coil of intestine to another. In this central protion of the jejunum were a number of protuberances from the surface of the bowel, each about the size of a pea and rather firm in consistency. The strangulated portion of the jejunum was encircled by a ring formed by the fibrous band which seemed to be formed by the union end-to-end of two elongated and pedunculated protuberances, similar to those found on other portions of the bowel. After the division of the band, the serosa at the site of strangulation was seen to be smooth, and the distal coils of intestine immediately filled with gas. The numerous, peculiar protuberances which were most numerous in the direction of the appendix suggested that a previous appendicitis combined with a fibrous peritonitis may have been responsible for them. The appendix was found posteriorly, surrounded by fibrous adhesions which showed the same peculiar protuberances found on the intestine. The appendix was removed as well as some of the protuberances. The histological examination disclosed that the rounded ends of the protuberances were made up of a connective tissue, rich in nuclei, and had a similar connective tissue capsule. There was some necrosis, partial hyaline degeneration, and edematous infiltration. The pedicle possessed abundant young connective tissue and capillaries. It is concluded that there occurs an apparently little-known development of organized peritoneal exudate, in the form of a pedunculated formation, the end being about the size of a pea. Two such bodies may adhere to each other and cause a probably post-traumatic (as from blows on the abodmen) strangulation of the intestine. In these cases two rare symptoms occur; a bradycardia with a pulse of about 52, and a retardation of the effect of morphine. The latter is probably due to the administration of the morphine by mouth into a well-filled stomach. A quick and easy cure can be obtained by a right-sided operation.

THERAPEUTICS

UNDER THE CHARGE OF

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Whooping Cough. Its Treatment with Vaccine.—Wilson (*New York Med. Jour.*, 1913, xcvii, 823) reports a series of 24 children with whooping cough treated by pertussis vaccine. He gave the vaccine in doses of 20,000,000 to 40,000,000 bacteria. The dosage was controlled, after the initial dose, by the range of temperature and the severity of the cough. The paroxysms diminished in frequency and in severity and in some of the children very promptly. The characteristic whoop disappeared and the cases soon became clinically simple cases of bronchitis. The shortest duration of treatment was nine days, the longest forty-eight days, and the average twenty-three days.

The Vaccine Treatment of Whooping Cough.—Sill (*Amer. Jour. Dis. of Child.*, 1913, v, 379) has employed pertussis vaccine for the treatment of 33 children suffering from whooping cough. He believes that the vaccine markedly diminished the number and severity of the paroxysms and the amount of vomiting. The dosage of the vaccine was regulated more by the severity of the disease than by the age of the child. The youngest child treated was one month old and the oldest was six years. Most of the children were from six months to three years of age. The dosage of the vaccine varied from 20,000,000 in the mild cases to 60,000,000 in the severe cases. The cases that were treated early in the disease seemed to respond more quickly to the treatment, and the course of the disease was shortened. In all cases, however, after one to three injections the number and severity of the attacks were markedly diminished. The children showed greater improvement when the vaccine was given in moderately large doses at intervals of from one to two days. Sill advises as the correct dosage for mild cases 50,000,000 bacteria every other day, and for severe cases this same dose every day or 100,000,000 every other